

WHAT IS CLAIMED IS:

1. A fiber optic array, comprising:
a plurality of fiber optic articles supportedly arranged on a first surface of a transparent medium, said transparent medium having a second surface opposite said first surface;
at least two optical features arranged on said first surface of said transparent medium adjacent to said plurality of fiber optic articles; and,
a fiducial mark precisely corresponding to each one of said at least two optical features formed on said second surface of said transparent medium.
2. The fiber optic array recited in claim 1 wherein said at least two optical features have a predetermined configuration.
3. The fiber optic array recited in claim 2 wherein said predetermined configuration is a generally circular shape.
4. The fiber optic array recited in claim 2 wherein said predetermined configuration is a generally linear shape.
5. The fiber optic array recited in claim 2 wherein said predetermined configuration is a generally crossed linear shape.
6. The fiber optic array recited in claim 1 wherein said fiducial mark corresponding to each one of said at least two optical features is formed on treated portions of said second surface of said transparent medium.
7. The fiber optic array recited in claim 1 wherein said at least two optical features comprise refractive microlenses.

8. The fiber optic array recited in claim 1 wherein said at least two optical features comprise diffractive microlenses.

9. The fiber optic array recited in claim 7 wherein said refractive microlenses comprise aspheric microlenses.

10. The fiber optic array recited in claim 7 wherein said refractive microlenses comprise spheric microlenses.

11. Method of manufacturing a fiber optic array having a plurality of fiber optic articles, comprising the steps of:

providing a medium having a plurality of openings, each one of said plurality of openings passing at least partially through a first surface of said medium, said medium having a second surface opposite said first surface, and said plurality of openings being configured to support one fiber optic article in said plurality of fiber optic articles;

arranging each one of said plurality of fiber optic articles into one of said plurality of openings;

forming at least two optical features on said first surface of said medium adjacent said fiber optic array;

altering at least a portion of said second surface of said medium;

and,

directing a collimated beam of light through said at least two optical features and onto said at least a portion of said second surface, said at least two optical features focusing said collimated beam of light onto said at least a portion of said second surface to form a precisely located at least two fiducial marks thereon.

12. The method recited in claim 11 wherein said collimated beam of light is produced by a laser.

13. The method recited in claim 11 wherein said at least two optical features each has a predetermined configuration.

14. The method recited in claim 13 wherein said predetermined configuration is generally circular thereby forming a generally circular fiducial mark on said second surface.

15. The method recited in claim 13 wherein said predetermined configuration is generally linear thereby forming a generally linear fiducial mark on said second surface.

16. The method recited in claim 13 wherein said predetermined configuration is generally crossed linear thereby forming a generally crossed linear fiducial mark on said second surface.

17. The method recited in claim 11 wherein said step of altering includes the step of ablating said at least a portion of said second surface so as to distinguish at least two fiducial marks formed thereon.

18. The method recited in claim 11 wherein said step of forming said at least two optical features includes the step of forming said at least two optical features by diamond milling.

19. The method recited in claim 11 wherein said step of forming said at least two optical features includes the step of forming said at least two optical features by diamond turning.

20. The method recited in claim 11 wherein said step of forming said at least two optical features includes the step of forming said at least two optical features by a process of indentation.

21. The method recited in claim 13 wherein said predetermined configuration of said at least two optical features comprise generally a diffractive element thereby producing a generally complex-shaped at least two fiducial marks.

22. The method recited in claim 11 wherein said step of altering includes the step of painting said at least a portion of said second surface so as to distinguish said at least two fiducial marks formed thereon.

23. The method recited in claim 11 wherein said step of altering includes the step of metallizing said at least a portion of said second surface so as to distinguish said at least two fiducial marks formed thereon.

24. The method recited in claim 11 wherein said step of altering includes the step of vacuum coating said at least a portion of said second surface so as to distinguish said at least two fiducial marks formed thereon.

25. The method recited in claim 11 wherein said step of altering includes the step of roughening said at least a portion of said second surface so as to distinguish said at least two fiducial marks formed thereon.

26. The method recited in claim 11 wherein said step of altering includes the step of spin coating said at least a portion of said second surface so as to distinguish said at least two fiducial marks formed thereon.

27. The method recited in claim 11 wherein said step of altering includes the step of dip coating said at least a portion of said second surface so as to distinguish said at least two fiducial marks formed thereon.

28. The method recited in claim 11 wherein said step of forming said at least two optical features on said first surface includes the step of diamond milling.

29. The method recited in claim 11 wherein said step of forming said at least two optical features on said first surface includes the step of diamond turning.

30. The method recited in claim 11 wherein said step of forming said at least two optical features on said first surface includes the step of etching.